

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2027-08-08T05:26:30.630
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 144665601023366656
 2Mass ID (if available) : 04290528+2141272

ICRS Star Coord at Epoch: 04h 29m 05.28429s +21:41:27.17831s

RUWE (>1.4 is poor) : 1.03
 K magnitude : 14.915
 G magnitude : 16.833
 RP magnitude : 16.137
 BP magnitude : 17.348
 DUPflag : 0
 Distance (au) : 19.772
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 18.37
 Sun-Target sep (deg) : 66.13
 Sun-Moon sep (deg) : 143.95
 B (ring opening deg) : 78.47
 PA of pole (deg) : -57.30

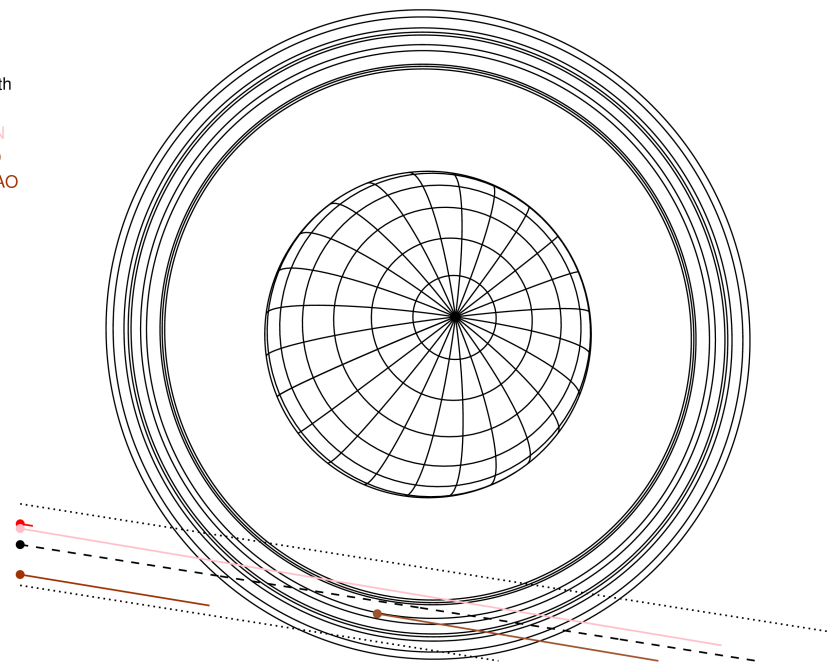
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2027-08-08T05:26:30.6300 ex: 04 29 05.2843 s: +21 41 27.178 C/A 2.958° PA 351.03 deg v_sky +18.37 km/s D 19.77 AU
 Credit: Styled after SORA/Lucky Star

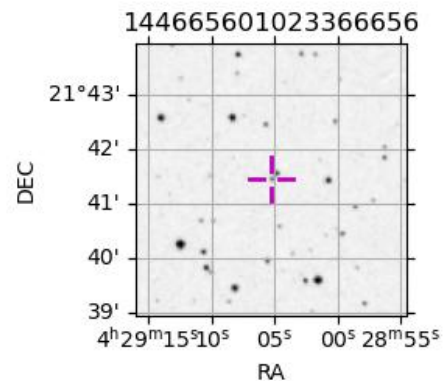
Uranus 2027-08-08T05:26:30 K14.91 G16.83 XRgt

Earth
 PIC
 TEN
 RIO
 SAAO

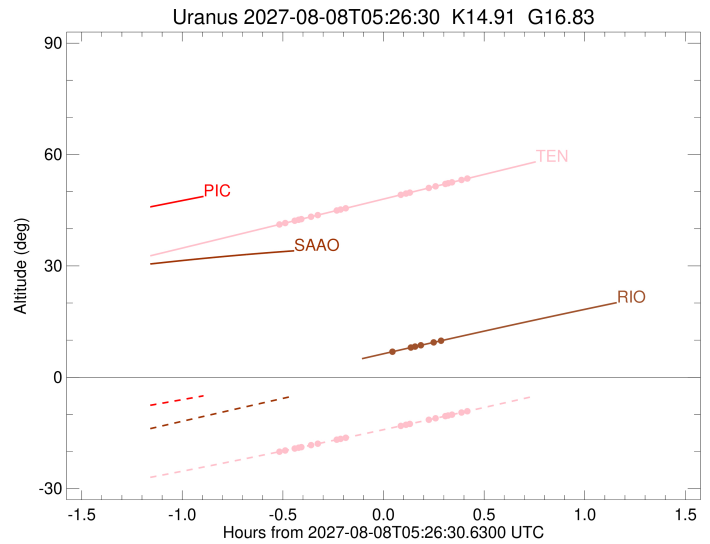
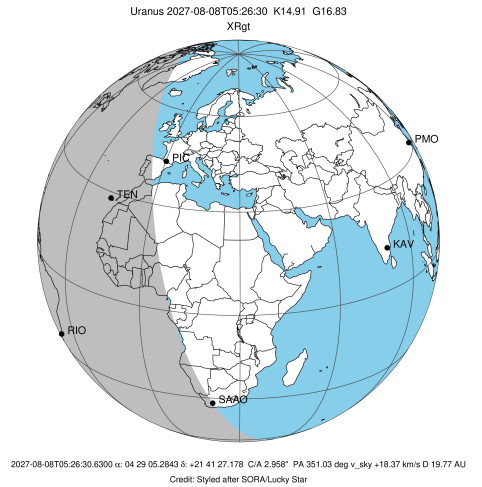


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1					PnnRnn
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8					PnnRnn
KPNO	Kitt Peak Natl Obs	32.0	248.4					PnnRnn
MCD	McDonald Obs. 2.7m	30.7	256.0					PnnRnn
TEN	Teide Obs./Tenerife	28.3	343.5	+++++		+++++	AUG 08 04:55 - AUG 08 05:52	PnnRie
IRTF	Mauna Kea/IRTF	19.8	204.5					PnnRnn
KAV	Kavalur Observatory	12.6	78.8					PnnRnn
RIO	Rio de Janeiro	-22.9	316.8			+++++	AUG 08 05:29 - AUG 08 05:44	PnnRne
ESO	European Southern Obs	-29.3	289.3					PnnRnn
AAT	Siding Spring (AAT)	-31.3	149.1					PnnRnn
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2027-08-08T05:22:42.300
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : TEN
 Location : Teide Obs./Tenerife
 Latitude (deg) : 28.30050
 E. Longitude (deg) : 343.48909
 Altitude (km) : 2.395
 Gaia source ID : 144665601023366656
 2Mass ID (if available) : 04290528+2141272
 ICRS Star Coord at Epoch: 04h 29m 05.28429s +21:41:27.17831s
 RUWE (>1.4 is poor) : 1.03
 K magnitude : 14.915
 G magnitude : 16.833
 RP magnitude : 16.137
 BP magnitude : 17.348
 DUPflag : 0
 Distance (au) : 19.772
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 18.37
 Sun-Target sep (deg) : 66.13
 Sun-Moon sep (deg) : 143.87
 B (ring opening deg) : 78.47
 PA of pole (deg) : -57.30
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.823
 C/A sky separation (km) : 40483.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 ura111.bsp
 IAU_URANUS_for_RINGFIT.tpc
 vgr2.ura111.bsp
 ura161.bsp
 vgr2.ura161.bsp
 peph.ura160.bsp
 earthstns_itrf93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

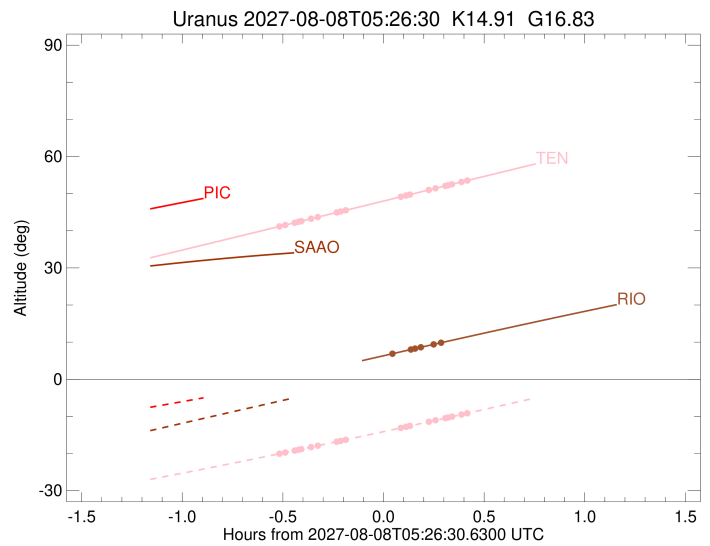
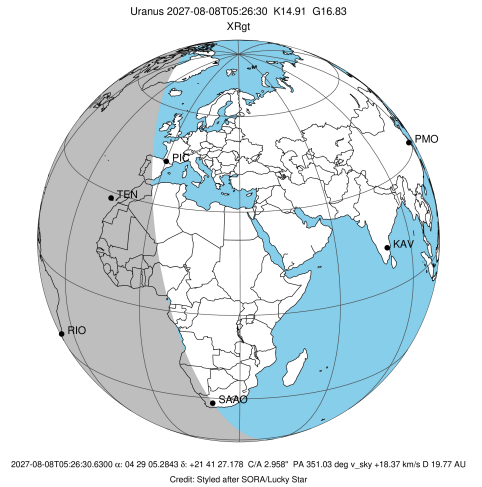


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2027-08-08T04:55:18.645		41.13	-20.08	51280.79	-11.20		
lambda	I	2027-08-08T04:57:14.304		41.55	-19.72	50026.71	-10.59		
delta	I	2027-08-08T05:00:03.691		42.17	-19.19	48300.35	-9.78		
gamma	I	2027-08-08T05:01:13.658		42.43	-18.97	47628.40	-9.42		
eta	I	2027-08-08T05:02:02.315		42.61	-18.82	47176.12	-9.17		
beta	I	2027-08-08T05:04:58.015		43.25	-18.27	45651.49	-8.18		
alpha	I	2027-08-08T05:07:02.051		43.71	-17.87	44685.01	-7.41		
4	I	2027-08-08T05:12:29.321		44.91	-16.83	42614.90	-5.19		
5	I	2027-08-08T05:13:32.974		45.15	-16.63	42304.68	-4.71		
6	I	2027-08-08T05:15:19.021		45.54	-16.29	41833.26	-3.90		

No planet occultations

6	E	2027-08-08T05:31:31.725		49.12	-13.13	41816.03	3.90		
5	E	2027-08-08T05:33:17.462		49.51	-12.78	42275.75	4.70		
4	E	2027-08-08T05:34:26.486		49.76	-12.56	42614.52	5.18		
alpha	E	2027-08-08T05:39:55.663		50.97	-11.47	44692.15	7.39		
beta	E	2027-08-08T05:42:01.346		51.44	-11.05	45669.39	8.15		
eta	E	2027-08-08T05:44:55.485		52.08	-10.47	47176.12	9.13		
gamma	E	2027-08-08T05:45:43.766		52.25	-10.31	47622.99	9.38		
delta	E	2027-08-08T05:46:54.610		52.52	-10.08	48300.35	9.74		
lambda	E	2027-08-08T05:49:44.791		53.14	-9.51	50026.71	10.54		
epsilon	E	2027-08-08T05:52:05.719		53.66	-9.03	51554.28	11.14		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2027-08-08T05:20:39.900
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : RIO
 Location : Rio de Janeiro
 Latitude (deg) : -22.89506
 E. Longitude (deg) : 316.77708
 Altitude (km) : 0.033
 Gaia source ID : 144665601023366656
 2Mass ID (if available) : 04290528+2141272
 ICRS Star Coord at Epoch: 04h 29m 05.28429s +21:41:27.17831s
 RUWE (>1.4 is poor) : 1.03
 K magnitude : 14.915
 G magnitude : 16.833
 RP magnitude : 16.137
 BP magnitude : 17.348
 DUPflag : 0
 Distance (au) : 19.772
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 18.37
 Sun-Target sep (deg) : 66.13
 Sun-Moon sep (deg) : 143.33
 B (ring opening deg) : 78.47
 PA of pole (deg) : -57.30
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.100
 C/A sky separation (km) : 44449.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 ura111.bsp
 IAU_URANUS_for_RINGFIT.tpc
 vgr2.ura111.bsp
 ura161.bsp
 vgr2.ura161.bsp
 peph.ura160.bsp
 earthstns_itrf93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk



Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2027-08-08T04:59:02.657		0.60x	-60.93	51333.54	-9.12		
lambda	I	2027-08-08T05:01:34.559		1.13x	-60.35	50026.71	-8.19		
delta	I	2027-08-08T05:05:23.686		1.93x	-59.48	48300.35	-6.85		
gamma	I	2027-08-08T05:07:06.706		2.29x	-59.09	47627.41	-6.20		
eta	I	2027-08-08T05:08:22.402		2.56x	-58.80	47176.12	-5.71		
beta	I	2027-08-08T05:13:53.967		3.71x	-57.53	45656.65	-3.42		

No planet occultations

beta	E	2027-08-08T05:29:06.988		6.87	-54.03	45664.06	3.42		
eta	E	2027-08-08T05:34:37.166		8.00	-52.76	47176.12	5.70		
gamma	E	2027-08-08T05:35:52.539		8.26	-52.48	47623.88	6.18		
delta	E	2027-08-08T05:37:36.501		8.61	-52.08	48300.35	6.83		
lambda	E	2027-08-08T05:41:26.607		9.39	-51.19	50026.71	8.15		
epsilon	E	2027-08-08T05:44:23.747		9.99	-50.51	51554.24	9.07		